DIPTERA OF KATOOMBA. PART 3.

Stratiomyiidae and Tachinidae.

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[Read 24th June, 1959.]

Synopsis.

Synonymy is recorded and four species that have not previously been found in New South Wales are given under Stratiomyiidae. Characters and synonymy are discussed for some variable Australian Tachinidae and include three specific names in genus *Actia*, four generic synonyms under *Aprotheca*, which include seven specific names placed as synonyms, and six names are excluded from the generic conception adopted. Keys are given to aid in identifying the species of *Odontomyia*, *Actia* and *Aprotheca*.

STRATIOMYIIDAE.

Foreword.—Previous records from the Blue Mountains of New South Wales are *Metoponia gemina* Hardy, from Leura, *Ophiodesma flavipennis* Macq., Blackheath, and *Odontomyia opertanea* White, recorded in Hardy 1920, 1932 and 1938. A record of a species of *Chiromyza* from Blackheath is mentioned in Hardy 1924, but no more specimens have been found.

Eye coloration.—Taxonomists take advantage of the colour patterns in the eyes of Diptera wherever this feature occurs, and use it as an aid towards specific isolation. Occasionally the pattern is found to be unstable, but conforming in its variation within a sequence of development that reaches a maximum that is the typical form for the species. Some recorded colour patterns are given in Hardy 1938 and 1939, and in the latter paper, the scheme adopted for describing the patterns is given. More of these colour patterns are recorded below.

References.—Earlier papers give references to species and those are not repeated below, only subsequent references being added here.

Boreoides subulatus Hardy.

Hardy, 1920, Proc. Linn. Soc. N.S.W., 45: 540; 1924, 49: 364. Kershaw, 1926, *Vict. Nat.*, 43: 159.

Hab.—Leura: 12 April 1953. This species is stated to infest a garden regularly every autumn, and some specimens and eggs were transferred to my garden at Katoomba, but failed to become established.

Actina brevihirta Hardy.

Hardy, 1932, *Proc. Roy. Soc. Qland*, 44: 42.

Hab.—Katoomba; 31 males, 30 females. The earliest date in any year is 22nd September 1955, and the last 27th March 1958. Many specimens were on an old compost heap that was covered by a dense growth of a weed (*Ranunculus*) during January 1959.

Described from Queensland, this record is the first from New South Wales.

Actina incisuralis Macq.

Hardy, *Proc. Roy. Soc. Tasm.*, 1920, pp. 40–1; 1932, Proc. Linn. Soc. N.S.W., 43: 53–4. Fuller, 1934, Proc. Linn. Soc. N.S.W., 59: 190–6.

Hab.—Katoomba; this common species is occasionally seen.

Neoexaireta spinigera Wiedemann.

Hardy, *Proc. Roy. Soc. Tasm.*, 1920, pp. 42–3; 1939, Proc. Linn. Soc. N.S.W., 64: 37. Malloch, 1928, Proc. Linn. Soc. N.S.W., 53: 361–2.

Hab.—Katoomba; very abundant.

Damaromyia nitens Hardy.

Hardy, 1931, *Ann. Mag. Nat. Hist.* (10), 8: 125.

Hab.—Katoomba; 1 male, 1 female, 20th and 19th November 1953 respectively.

On the male the eyes were reflecting red-green, and the female had in addition a red bar at antennal level.

Damaromyia tasmanica Kertesz.

Hardy, 1931, *Ann. Mag. Nat. Hist.* (10), 8: 125–6. James, 1950, *Proc. Ent. Soc. Washington*, 52: 312–5.

Hab.—Katoomba; 1 female, 19 November 1957.

Damaromyia clivosa Hardy.

Hardy, 1931, *Ann. Mag. Nat. Hist.* (10), 8: 128.

Hab.—Katoomba; 1 male, 8 January 1958; 1 female, 2 February 1959. Known previously from Brisbane to Sydney, the present record at over 3000 feet suggests that the species will be found widely distributed southwards into Victoria.

Normally this species has the scutellum raised 30° to the plane of the thorax. Contrary to a prior statement (Hardy, 1950) within this genus the scutellum does articulate, rising and falling with the wing motion. The tests were made with the flat type of scutellum, and now these two specimens were tested for the raised scutellum. In both cases tests showed a considerable stiffness existed, especially on this female, and it became necessary to depress the scutellum; then the wing action became apparent.

Acanthasargus palustris White.

Hardy, *Proc. Roy. Soc. Tasm.*, 1920, p. 48.

Hab.—Katoomba; 8 males, 4 females, November to January during the years 1951 to 1959. Described from Tasmania, this record is the first from the mainland of Australia.

When alive the eyes showed, in accord with age at time of capture, red-green reflections that developed red above antennal level and entirely green below, thence green above also, leaving a red bar just above antennal level. A silvery sheen of the abdomen on the male is seen from the front and side views.

Acanthasargus flavipes Hardy.

Hardy, 1932, *Proc. Roy. Soc. Qland*, 44: 48–9.

Hab.—Katoomba; 1 male, 23 December 1955. Described from Queensland, this record is the first from New South Wales.

Ophiodesma flavipalpis Macq.

Hardy, 1932, *Proc. Roy. Soc. Qland*, 44: 44.

Hab.—Katoomba; 4 males, 2 females and several others of inferior condition. September to November, 1957 and 1958.

One male had two red bars below and one above antennal level, and above these was a blotch mixed red and green, each reflecting strongly in accord with the direction of light. A female had a red blotch both above and below the two central bars, and the red area on a third specimen was reduced to two bars both above and below antennal level. These differ considerably from eye markings of the allied species *O. innoda* Hardy 1932.

Genus Odontomyia Meigen.

So variable are the characters of two common Australian species, that it proved impossible to discover features that may distinguish between some forms given specific names. There is a trend in any single breeding area to yield a definite variant which may be an ecological form, but long series collected over wide areas are found to have characters grading from one described form to another. White (1916) recognized

these four, but separated *carinifacies* on colour marks and the style of the antennae being attenuated, stating the species appears to be scarce. The attenuated antennal style is an abnormality sometimes found on both sexes in a long series collected from a single area. It has been found from Tasmania to New South Wales, and probably is commonest in colder regions of these States.

Key to species of Odontomyia.

1. Scutellar spines curved to become upwardly directed ..... 2.
   Scutellar spines straight, lying horizontally in continuity with the scutellum ..... 3.
2. Scutellar spines arising subapically from beneath the scutellum ..... *opertanea* White.
   Scutellar spines arising from the apical margin of the scutellum ..... *scutellata* Macq.
3. Abdomen with the dorsal area black with green or yellow side spots varying in size; when large they are generally confluent at the lateral margin ..... *hunteri* Macleay.
   Abdomen with dorsal area black centrally, with a lateral green or yellow border, varying in width ..... *decipiens* Guérin.

Odontomyia decipiens Guérin.

Oxycera decipiens Guérin 1838. Hardy, 1938, Proc. Linn. Soc. N.S.W., 63: 70.

Synonymy.—*amyris* Walker 1849, *annulipes* Macquart 1849, *ialmenus* Walk. 1849, *kirchneri* Jaennick 1867, *marginella* Macq. 1849, *pectoralis* Thomson 1869, *picea* Walk. 1850, *regisgeorgii* Macq. 1838, *rufifacies* Macq. 1849, *stylata* Macq. 1847, *subdentata* Macq. 1849.

O. pallida Hill, 1919, Proc. Linn. Soc. N.S.W., 44: 456, is a new synonym.

Hab.—Although widely distributed over coastal and lowland areas of Australia, this species is unknown from the mountains of New South Wales.

Hobart; 1 female, 8 January 1955, had its eye colour reflecting red and green with a red bar at antennal level, and not quite reaching the posterior border of the eye. Above this bar the red dominated, and below it the green had the stronger reflections.

Odontomyia hunteri Macleay.

Stratiomys hunteri Macleay 1830. *Odontomyia hunteri* Hardy 1938, Proc. Linn. Soc. N.S.W., 63: 72.

Synonymy.—*Carinifacies* Macq. 1849, including var. *grandimaculata* and var. *minima* Hardy 1920, *laterimaculata* Macq. 1849, *stricta* Erichson 1842, and *sidneyensis* Schiner 1868.

O. obscura Hill, 1919, Proc. Linn. Soc. N.S.W., 44: 457, is a new synonym.

Hab.—Katoomba; 3 males, 22nd, 27th and 28th December 1955. The last, on one antenna only, had the style attenuated as on White's specimen of *carinifacies*. 2 females December 1949 and 9th November 1950, also a series of both sexes which are inferior in condition.

Tasmania; Hobart, 7th and 11th January 1955. The male has a red bar which was below antennal level near the face, and it sloped upwards. The female has a purple bar at antennal level and a large purple blotch above on the otherwise green eye. Eight other males and one female were captured in the same month, and all specimens are typical *laterimaculata* of White's interpretation.

Odontomyia scutellata Macq.

Hardy, 1938, Proc. Linn. Soc. N.S.W., 63: 72.

Hab.—Katoomba; 1 male, December 1949.

References (Stratiomyiidae).

Fuller, 1934.—Proc. Linn. Soc. N.S.W., 59: 190-6.
Hardy, 1920.—*Proc. Roy. Soc. Tasmania*, pp. 33-64.
———, 1920.—Proc. Linn. Soc. N.S.W., 45: 532-542.
———, 1924.—*Idem*, 49: 360-370.
———, 1931.—*Ann. Mag. Nat. Hist.* (10), 8: 120-9.
———, 1932.—*Proc. Roy. Soc. Queensland*, 43: 50-5; 44: 41-9.
———, 1938.—Proc. Linn. Soc. N.S.W., 63: 70-4.
———, 1939.—*Idem*, 64: 34-40.

Hardy, 1950.—*Ent. mon. Mag.*, 86: 230.
Hill, 1919.—Proc. Linn. Soc. N.S.W., 44: 458-462.
James, 1950.—*Proc. Ent. Soc. Washington*, 52: 312-5.
Kershaw, 1926.—*Vict. Nat.*, 43: 159-160.
Malloch, 1928.—Proc. Linn. Soc. N.S.W., 53: 361-5.

TACHINIDAE.

Foreword.—The two genera *Actia* and *Aprotheca* are parasites of Lepidoptera that were becoming of interest to economic entomology, and the endeavour to unravel the complicated features in literature concerning them was first undertaken by me when holding the Walter and Eliza Hall Fellowship in economic biology at the Queensland University (1922–34). The work was continued later, extending into the period of my retirement to the Blue Mountains of New South Wales. The experience gained from field observation on these flies, under two quite different climatic conditions, has permitted a better understanding of the genera than had been acquired before. There remains now only the confirmation, or otherwise, of identity by comparison with surviving types of the Australian Linnaemyiini in European collections, and that were described by very early authors; apparently none were described by them belonging to genus *Actia*. The synonymy given below appears to be an accurate interpretation of conclusions reached during recent researches on these genera.

Tribe Actiinae.

During recent years, the trend has been to amalgamate various Calyptrate families into one family unit, Tachinidae, and to divide the complex formed into divisions that do not follow the traditional classification. These and other proposed classifications for the family can be regarded as tentative efforts to improve the taxonomy of the Diptera, efforts that ultimately may achieve an advancement, but at present the schemes become too elaborate in their effect to render the phylogeny of the Calyptratae on a satisfactory plan. In these notes Tachinidae is a name retained in the original sense, and in this grouping it becomes divisible into three easily identified parts.

The subfamily Phasiinae has the broadly visible sternites of the abdomen; the Dexiinae has the aedeagus of the male divided into two articulating parts, the second of which is very long and slender, and finally the Tachininae incorporates the remaining genera and is divisible into tribes. All three are separated from other Calyptrates that may have the strongly upturned vein M_1, by the postscutellum which bulges below the scutellum without the concavity between them, a concavity such as seen on Calliphoridae and Sarcophagidae. The two following tribes belong to the Tachininae; the Linnaemyiini has some genera with minute palpi and, according to Malloch, only one genus of Actini occurs in Australia, and is based largely on vestiture. Vestiture is an unsatisfactory feature to use because of variability within species and leads either to assembling species into complex units or to forming monotypical genera and subgenera to accommodate the less usual forms. Already the use of it has led to much synonymy needing clarification by the aid of field observation and breeding.

Genus Actia Desvoidy.

Between 1929 and 1936, J. R. Malloch had recorded 14 specific names for about 70 specimens of the genus *Actia*. The characters used in antennal proportions, chaetotaxy and other features, are proving to be so variable on some species that it becomes necessary to seek new methods for determining the specific limits. It had been found necessary to reduce two of his names to synonymy under *A. darwini* Mall. (Hardy, 1938), a species that occurs abundantly around Brisbane, and below three more names are similarly reduced under *fergusoni* Bezzi, which species is abundant in Katoomba.

The surprising feature in the synonymy is *A. eucosmae* Bezzi, which proves to be an aborted female specimen of *A. fergusoni*, occurring in about 3% of known specimens.

The following list gives the number of specimens in parentheses that were studied by Malloch.

A. fergusoni Bezzi 1923, ♂ (12, both sexes mentioned by Malloch); *eucosmae* Bezzi 1926, ♀ (2, = *fergusoni*, aborted form); *valida* Curran 1927, ♂, ♀ (2); *norma* Mall. 1929,

♂, ♀ (25); *darwini* 1929, ♂, ♀ (5); *invalida* ♂, ♀ and sp. ♀, 1930 (7 + 1, = *fergusoni*); *baldwini* ♂ (1); *lata* ♂ (1); *parviseta* ♂ (2); *brevis* ♂ (1 or ?2, in the Ferguson collection one female is marked allotype, but no record is given for this, = *darwini*); *nigritula* ♀ (4); *argentifrons* ♂ (1); *plebia* ♂, ♀ (7); *quadriseta* 1936, ♀ (1, = *darwini*).

Key to species of Actia.

1. With fissicorn third antennal segment on male only ..... 2.
   With normal antennae on both sexes ..... 3.
2. Upper branch of third antennal segment on male with forked subbranches. 4 posterior postsutural dorsocentral bristles ..... *baldwini* Mall.
   Upper branch of the third antennal segment simple, and second segment of the arista elongate on both sexes. Normally with 4 postsutural dorsocentral bristles, but sometimes only three are apparent. Abdomen brown on male and on female normally black with segmentations brown and white. They vary towards the first two segments on the female, being largely brown, and ventrally the amount of brown varies too. Always the abdomen is slightly shining ..... *fergusoni* Bezzi.
3. Main radial vein bare, only the radial sector is setulose ..... 4.
   Both branches of the radial field setulose ..... 6.
4. With 4 posterior dorsocentral bristles. Abdomen black ..... *parviseta* Mall.
   With 3 posterior dorsocentral bristles. Abdomen yellowish-brown, varying to quite dark .. 5.
5. Anal vein complete ..... *norma* Mall.
   Anal vein incomplete ..... *lata* Mall.
6. With 3 posterior dorsocentral bristles. Largely yellowish species ..... *darwini* Mall.
   With 4 posterior dorsocentrals ..... 7.
7. Abdomen all black on female (male unknown) ..... *nigritula* Mall.
   Abdomen yellowish at sides ..... *angustifrons* and *plebia* Mall.

Actia fergusoni Bezzi.

Schizotachina fergusoni Bezzi, 1923, Proc. Linn. Soc. N.S.W., 48: 157, fig. 8; Townsend, 1926, *Philippine J. Sci.*, 29: 542 (*Schizoceromyia*); Malloch, 1929, Proc. Linn. Soc. N.S.W., 54: 116, and 1930, *ibid.*, 55: 304, fig. 32A. *Actia eucosmae* Bezzi, 1926, *Ann. Mag. Nat. Hist.* (9), 17: 239; Malloch, 1929, Proc. Linn. Soc. N.S.W., 54: 116, and 1930, *ibid.*, 55: 307. *Actia valida* Curran, 1927, *Ent. Mitt. Berlin*, 16: 356 (*Schizactina*); Malloch, 1930, Proc. Linn. Soc. N.S.W., 55: 305. *Actia invalida* Malloch, 1930, Proc. Linn. Soc. N.S.W., 55: 305, fig. 32B. *Actia* sp. Malloch, 1930, Proc. Linn. Soc. N.S.W., 55: 305.

New synonymy.—The description of *A. eucosmae* agrees with those abortive female specimens of *fergusoni* that have the wing venation incomplete, leaving the upper branch of the median field short. Similarly the position of the median cross-vein, relative to the radial-median cross-vein, varies in the species and normally is placed halfway between *r.-m.* cross-vein and the bend of the upper median vein, and may extend beyond that.

Chaetotaxy, as used by Malloch, varies too much to be of specific value, and similarly species cannot be isolated on the proportions of segments in the arista. *A. valida* Curran and *A. invalida* Malloch can therefore be regarded as being synonyms only.

When handling some freshly caught specimens in Brisbane, the end of the arista on one specimen gradually broke away in pieces, leaving a shorter and shorter remnant of the third segment. This suggested that the reduction on specimens may be due to wear taking place, but this shortening has not been repeated on test with Katoomba specimens. The length of the second segment of the arista varies too, and there is quite a complex of relative lengths in these two segments.

Hab.—Katoomba; numerous specimens, mainly females, collected over the years 1952–1959, during the months from September 8th to May 17. The last date includes an aborted female specimen agreeing with *eucosmae* Bezzi, and another of these is dated 18th April, both in the year 1954. About 3% of known female specimens are found to be aborted to more or less the same degree.

Actia norma Malloch.

Malloch, 1929, Proc. Linn. Soc. N.S.W., 54: 116; 1930, *ibid.*, 55: 307, fig. 33.

Hab.—Katoomba; occurring from early June (11th), but rare until September-December, and then becomes less plentiful to early February (3rd).

Some recorded characters are inconstant, and it is possible that *A. lata* Mall. may prove to be conspecific.

Actia parviseta Mall.

Malloch, 1930, Proc. Linn. Soc. N.S.W., 55: 308; Hardy, 1938, *Proc. Roy. Soc. Qland*, 49: 68.

Hab.—Katoomba; 2 females, the allotype and paratype ♀, 5 January 1959. The species was based on two males, and in accord with key characters, these two female specimens can be regarded as only conspecific. They are black specimens with very little brown, varying in position and amount on legs of the two sides on one specimen, but the other has entirely black legs. The white pulverulent covering on the abdomen gives a very slight whitish reflection, but forms a dense complete line of white at the abdominal segmentations. In general appearance the species comes nearest to *fergusoni*, but has a distinctly greater dorsal arch in its outline from head to abdominal tip, and it was distinguishable thereby when seen in the field.

Tribe Linnaemyiini.

Taxonomy.—The species of this discussion differ from other Tachininae by having minute palpi. The typical genus *Linnaemyia* has frontal-orbital bristles on the male, the parafacials and eyes hairy, and the third antennal segment is about twice as long as the second. In these characters *O. flavipennis* Macq. (= *similis* Walk.) agrees; however, the species has been placed as genotype of both *Amphibolosia* Surcouf and *Ballardia* Curran.

It is usual to regard this species and *M. brevigaster* Macq. as being congeneric, the latter name being quoted as genotype of *Chaetophthalmus* Brauer and Berg., but an error was made in assuming that the genotype had frontal-orbital bristles on the male *brevigaster*, misleading some subsequent authors.

All proposed genera concerned with the synonymy given here are monotypical, and when a series of genera are each based upon a single species, all in one zoological region, the fact suggests that the treatment given has been very faulty. It is advisable to amalgamate the generic conceptions of doubtful validity, and make a new approach to the problem of specific identities.

There are two common species belonging to the tribe widely spread in eastern Australia, and these are very variable in characters. The following names in sequence of publication refer to these two species and the description of one other suggests that three species occur:

M. brevigaster Macq. 1846 (♂) and *M. bicolor* Macq. 1848 (♀) are sexes of one. *A. rufipes* Macq. 1849 (♂ & ♀) has not been recognized again. *O. flavipennis* Macq. 1949 (♀), *O. nudistylum* Macq. 1854 (♀), *T. similis* Walk. 1956 (♂), *B. pallipes* Curran 1927 (♂) and *C. biseriatus* Mall. 1930 (♂) form the third.

In addition, in 1929 Malloch identified specimens, giving Macquart's two first names to forms that did not agree, placing them under different genera.

M. brevigaster Macq. ♂ has insufficient data in its description to determine its identity alone, but the figure given for the conspecific *M. bicolor* ♀ shows the dark colour of the abdomen very wide and applicable only to forms without frontal-orbitals on the male. Macquart's description of *M. vittatus* ♂ (p. 150), which is a *Cuphocera*, is described with frontal-orbitals (deux soies près du bord internes des yeux), showing that Macquart noted this character when present on males, and this followed immediately after the description of *brevigaster* ♂ (p. 159) wherein the character is not mentioned. Obviously it was absent.

One main difference gathered from literature lies in the very wide and the narrower summit of the head. The very wide case is recorded for *flavipennis* and *nudistylum*, both are females, and the male of the former is in agreement with the definition of *Chaetophthalmus* as originally but faultily defined. According to Austen, the holotype

of *Tachina similis* Walker conforms, as does also a paratype of *pallipes* Curran. The male of *biseriatus* Mall., in its description, is the same species.

Habits.—Several hundreds of freshly caught adult specimens have been examined over the years 1922–1958, but only three pupae have been discovered by me. These pupae were clustered together in the soil without host remains, and from them females emerged (5 May 1957). The adults which mainly frequent the ground, low herbage and flowering shrubs, get trapped at windows, and they look very like *Calliphora* subgen. *Proekon*, or, as in one case, subgenus *Neopollenia*. They may be found every month of the year, sometimes in enormous numbers, becoming the dominant Tachinid fly of a district for a short time. In the colder localities they are found from early Spring to late Autumn.

Genus Aprotheca Macq.

Aprotheca Macquart 1849, *Dipt. Exot.*, suppl. 4: 175; Brauer & Bergenstamm 1891, *Denk. Akad. Wiss. Wien*, 58: 408, 444: 1893, *ibid.*, 60: 224. *Chaetophthalmus* Brauer & Bergenstamm 1891, *l.c.*, 58: 383; 1893, *ibid.*, 60: 145. *Amphibolosia* Surcouf 1914, *Nouv. Arch. Mus. Paris*, 6: 109. *Ballardia* Curran 1927, *Bull. Ent. Res. London*, 18: 166. *Apalpus* Malloch 1929, Proc. Linn. Soc. N.S.W., 54: 318.

Synonymy.—Although the genotype of *Aprotheca* remains unrecognized in Australian collections, its general position in taxonomy remains without doubt. From other Australian forms it differs by the absence of the appendix in the radial field of the wing. Though usually present, the appendix is found to atrophy and hence becomes unreliable as a generic character.

Under *Chaetophthalmus* only two names are given in Brauer and Bergenstamm (1891–3), namely, *Micropalpus brevigaster* and *M. bicolor*, respectively the male and female of one species.

Amphibolosia Surcouf, with genotype *Ochromyia flavipennis* Macq., is the form with an extra wide frons, and frontal-orbital bristles on the male.

Ballardia Curran has the same genotype under the name *pallipes*.

Apalpus Malloch. based on one female specimen, has an oustanding bristle in the parafacial region. Where chaetotaxy is found differing so widely even within a species this character cannot be regarded as of generic value. The description is based on a unique female, yet the figure is labelled male. The sternopleurals are stated to be 1:1 or 1:1:1, possibly differing on the two sides of the specimen. The inner series of frontal bristles is said to extend almost to the eye, but illustrated otherwise on the figure.

Key to species of Aprotheca.

1. Male with frontal-orbital bristles. Both sexes with summit of head wider than eye-width. (Subgen. *Amphibolosia.*) ..... *similis* Walker.
   Male without frontal orbital bristles. Both sexes with summit of head less wide than eye-width. (Subgen. *Aprotheca.*) ..... 2.
2. At least female with an outstanding parafacial bristle. (Male unknown.) Western Australian ..... *dorsalis* Malloch.
   Without such parafacial bristle ..... 3.
3. Abdominal stripe normally occupying much of the tergites dorsally, but not extending far along apical margins of the segments ..... *brevigaster* Malloch.
   Abdominal stripe narrow, but extending into bands along the margins of three tergites .... *rufipes* Macquart.

Aprotheca rufipes Macq. (1849, p. 176) apparently is not recognizable from description, and possibly was from Sydney, not Tasmania as recorded. The description comes very near to *A. brevigaster* Macq. and may prove to be a variation of it.

A. dorsalis Malloch (1929, p. 318) is described as having a narrow frons, and it is assumed here that, when found, the frons of the male will be similarly narrow and will be without the frontal-orbital bristles.

Aprotheca brevigaster Macq.

Micropalpus brevigaster Macquart 1846, *Dipt. Exot.*, suppl. 1: 149; Schiner 1868, *Reise Novara, Dipt.*, 2: 330; Hardy 1938, *Proc. Roy. Soc. Qland*, 49: 68 (*Chaetophthalmus*). *Micropalpus bicolor* Macquart 1848, *Dipt. Exot.*, suppl. 3: 44; Brauer 1898, *Sitz. Acad. Wiss. Wien*, 107: 495 (*Chaetophthalmus*); Hardy 1938, *Proc. Roy. Soc. Qland*, 49: 68. ? *Nemoroea brevigaster* Macquart 1849, *Dipt. Exot.*, suppl. 4: 183. ? *Linnaemyia bicolor* Malloch 1929, Proc. Linn. Soc. N.S.W., 54: 317.

Synonymy.—Malloch attached the first name to a specimen from North Queensland which had frontal-orbital bristles on the male, and this certainly is an error. The female from Barrington Tops (N.S.W.) has been discovered at Katoomba and may prove to be a variant of *brevigaster*. The ground-colour of the abdomen sometimes showing below the pulverulent overlay suggests this, and in general appearance it looks like subgenus *Neopollenia* (*Calliphora*) due to that overlay. Moreover the small series from Katoomba (1 ♂, 6 ♀) shows a graduating density of overlay. Also, some quite normal looking specimens of *brevigaster* have a slight overlay of the same colour, seen when viewed from the rear, making the abdomen look brown, and so far no specimens showing a denser covering than that have been found.

Those specimens under *Nemoroea* added to the original series by Macquart are recorded with long palpi and hence cannot be congeneric.

Hab.—Katoomba; abundant from November to January, but in the 1957–8 season they were not as plentiful as in previous years.

Aprotheca similis Walker.

Ochromyia flavipennis Macquart 1849, *Dipt. Exot.*, suppl. 4: 245; Surcouf 1914, *Nouv. Arch. Mus. Paris*, 6: 110, pl. 5, fig. 5 (*Amphibolosia*), name preoccupied. ? *Ochromyia nudistylum* Macquart 1854, *Dipt. Exot.*, suppl. 5: 131; Bigot 1877, *Ann. Soc. Ent. France*, 7: 260; Brauer 1899, *Sitz. Acad. Wiss. Wien*, 108: 517 (*Chaetophthalmus*); Surcouf 1914, *Nouv. Arch. Mus. Paris*, (5) 6: 116; Hardy 1938, *Proc. Roy. Soc. Qland*, 49: 68 (*Amphibolosia*). *Tachina similis* Walker 1856, *Ins. Saund. Dipt.*, 2: 266; Austen 1907, *Ann. Mag. Nat. Hist.* (7), 19: 332 (*Chaetophthalmus*). *Ballardia pallipes* Curran 1927, *Bull. Ent. Res. London*, 18: 166; Hardy 1938, *Proc. Roy. Soc. Qland*, 49: 68 (*Amphibolosia*). *Chaetophthalmus biseriatus* Malloch 1930, Proc. Linn. Soc. N.S.W., 55: 311.

Synonymy.—The specimens are so abundant and variable, the characters grading from one form to another, and no differences detected in the male terminalia, that only one species is possible under the five names. There may be a doubt concerning the name *nudistylum*, originally described from Adelaide and placed as a synonym of *brevigaster* with doubt.

A more certain identification is *Tachina similis* Walk. which was based on a male with the frontal-orbital bristles.

The sternites of this species may have two rows of strong bristles, one row each on the two apical ones, but the character is a variable one, with bristles decreasing in number and often absent on the penultimate sternite, and thus the form *biserialis* Mall., based on a single specimen, becomes congeneric.

Hab.—Katoomba. Found nearly every month of the year, chiefly in Spring and Summer. 31 August and 1 April are first and last normal dates of occurrence, but in addition two females occurred on the wing on the 4th and 9th June 1957; also a male on 17 June 1958.

References (Tachinidae).

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